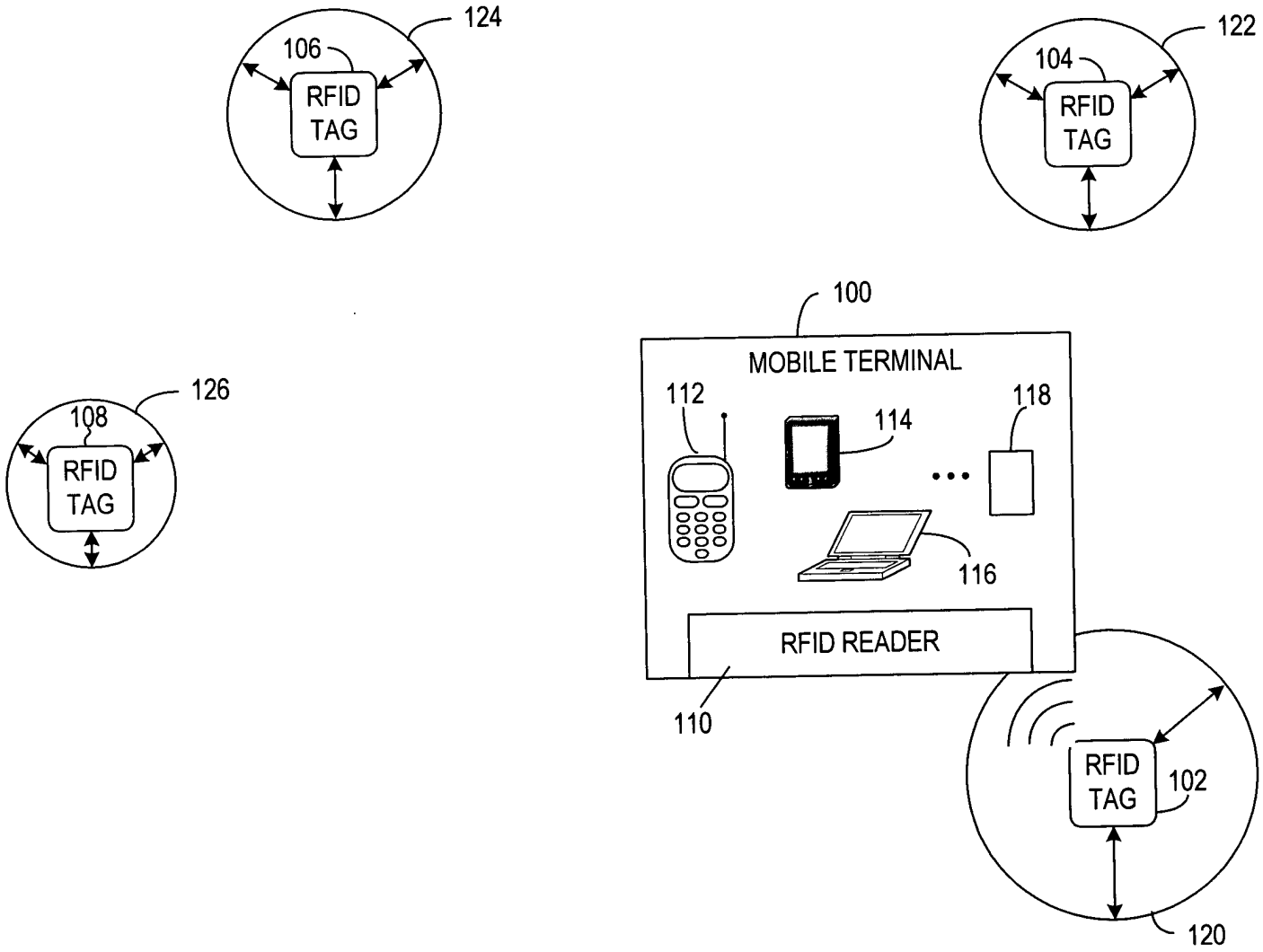
124
106
RFID TAG
122
104
RFID TAG
126
108
RFID TAG
100
MOBILE TERMINAL
112
114
118
116
RFID READER
110
RFID TAG
102
120

FIG. 1

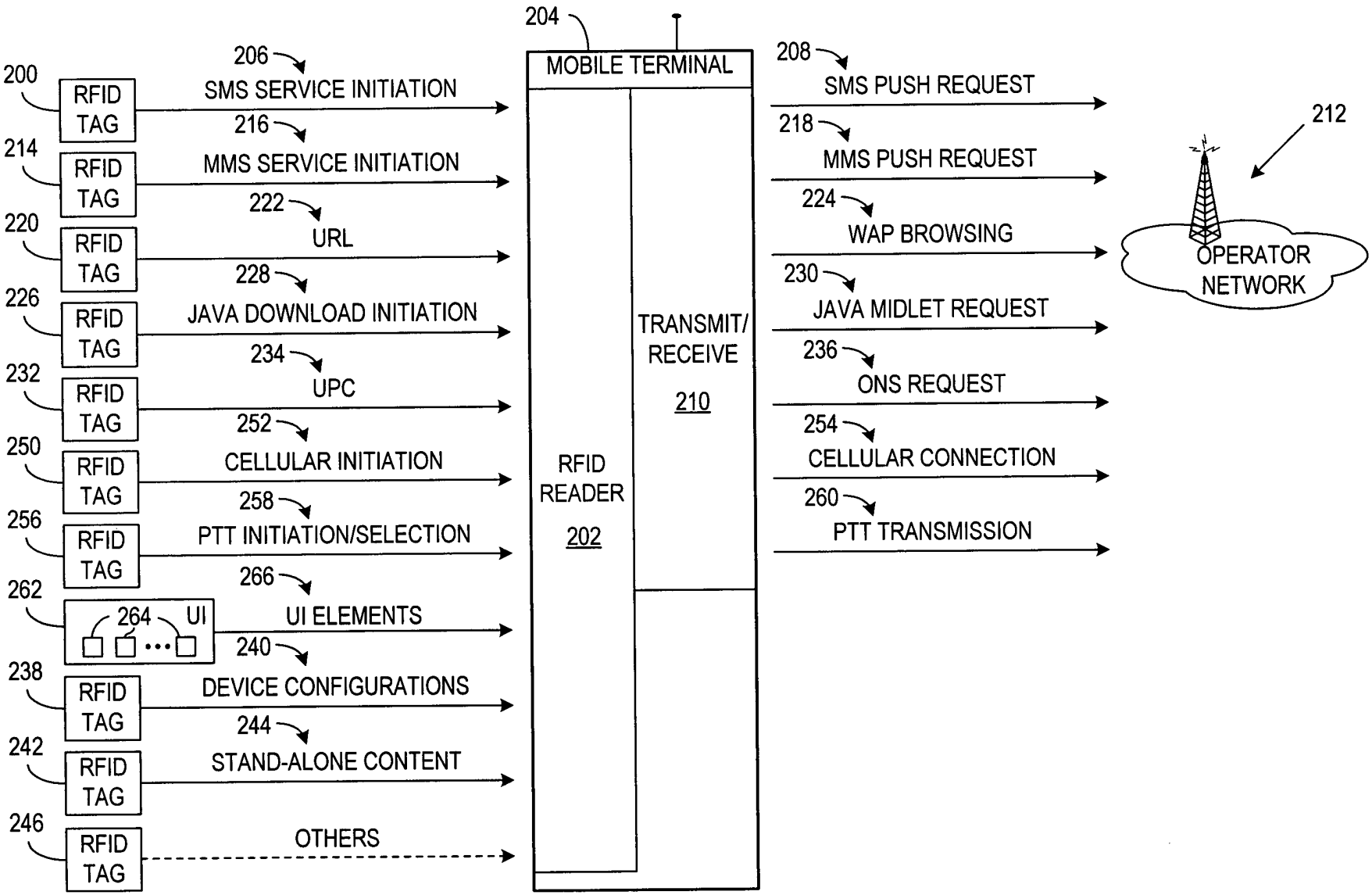
204
MOBILE TERMINAL
206
SMS SERVICE INITIATION
200
RFID TAG
216
MMS SERVICE INITIATION
214
RFID TAG
222
URL
220
RFID TAG
228
JAVA DOWNLOAD INITIATION
226
RFID TAG
234
UPC
232
RFID TAG
252
CELLULAR INITIATION
250
RFID TAG
258
PTT INITIATION/SELECTION
256
RFID TAG
266
264
UI
UI ELEMENTS
262
240
DEVICE CONFIGURATIONS
238
RFID TAG
244
STAND-ALONE CONTENT
242
RFID TAG
OTHERS
246
RFID TAG
RFID READER
202
TRANSMIT/ RECEIVE
210
208
SMS PUSH REQUEST
218
MMS PUSH REQUEST
224
WAP BROWSING
230
JAVA MIDLET REQUEST
236
ONS REQUEST
254
CELLULAR CONNECTION
260
PTT TRANSMISSION
212
OPERATOR NETWORK

FIG. 2

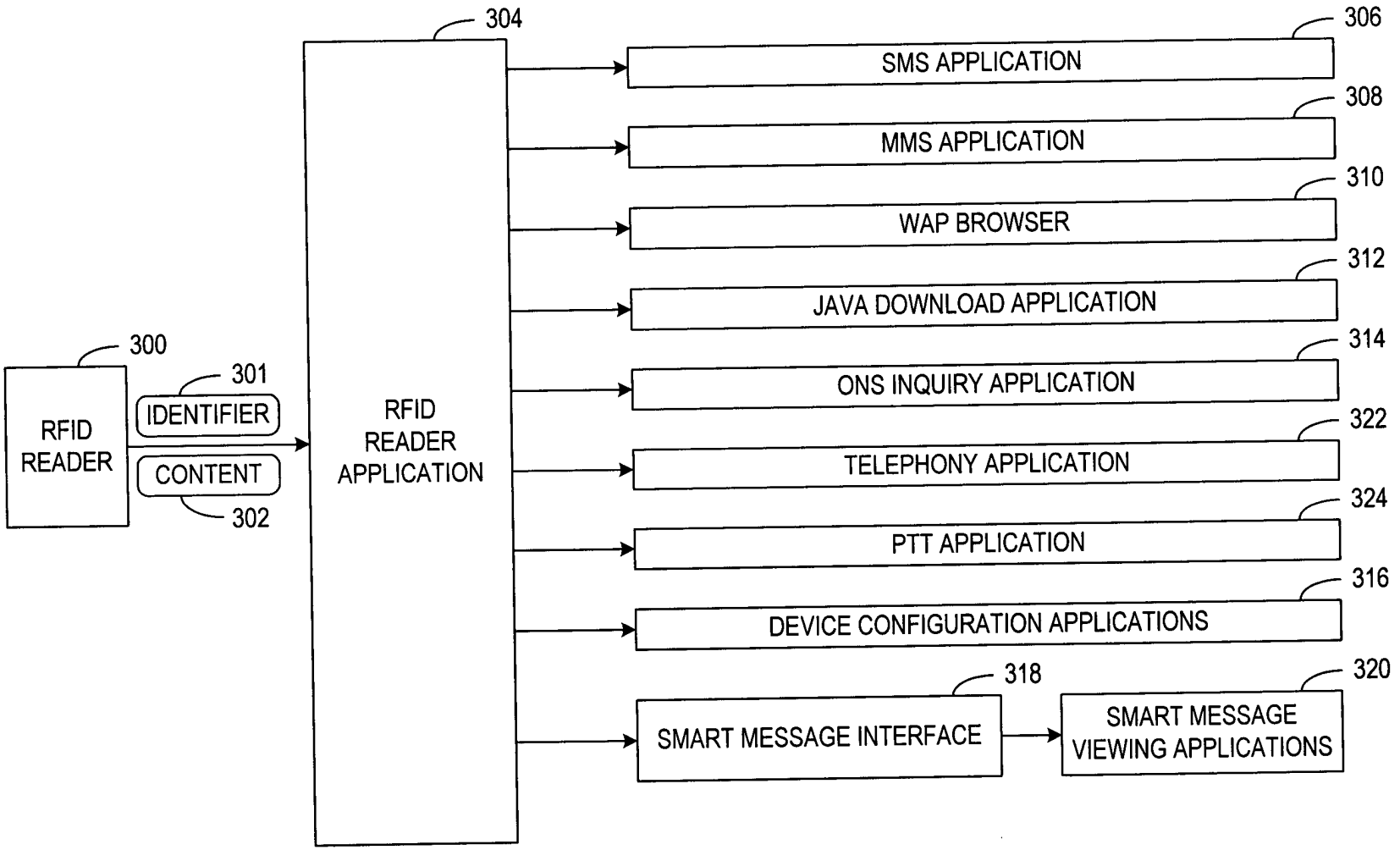
304
306
SMS APPLICATION
308
MMS APPLICATION
310
WAP BROWSER
312
JAVA DOWNLOAD APPLICATION
314
ONS INQUIRY APPLICATION
322
TELEPHONY APPLICATION
324
PTT APPLICATION
316
DEVICE CONFIGURATION APPLICATIONS
318
320
SMART MESSAGE INTERFACE
SMART MESSAGE VIEWING APPLICATIONS
300
RFID READER
301
IDENTIFIER
CONTENT
302
RFID READER APPLICATION

FIG. 3

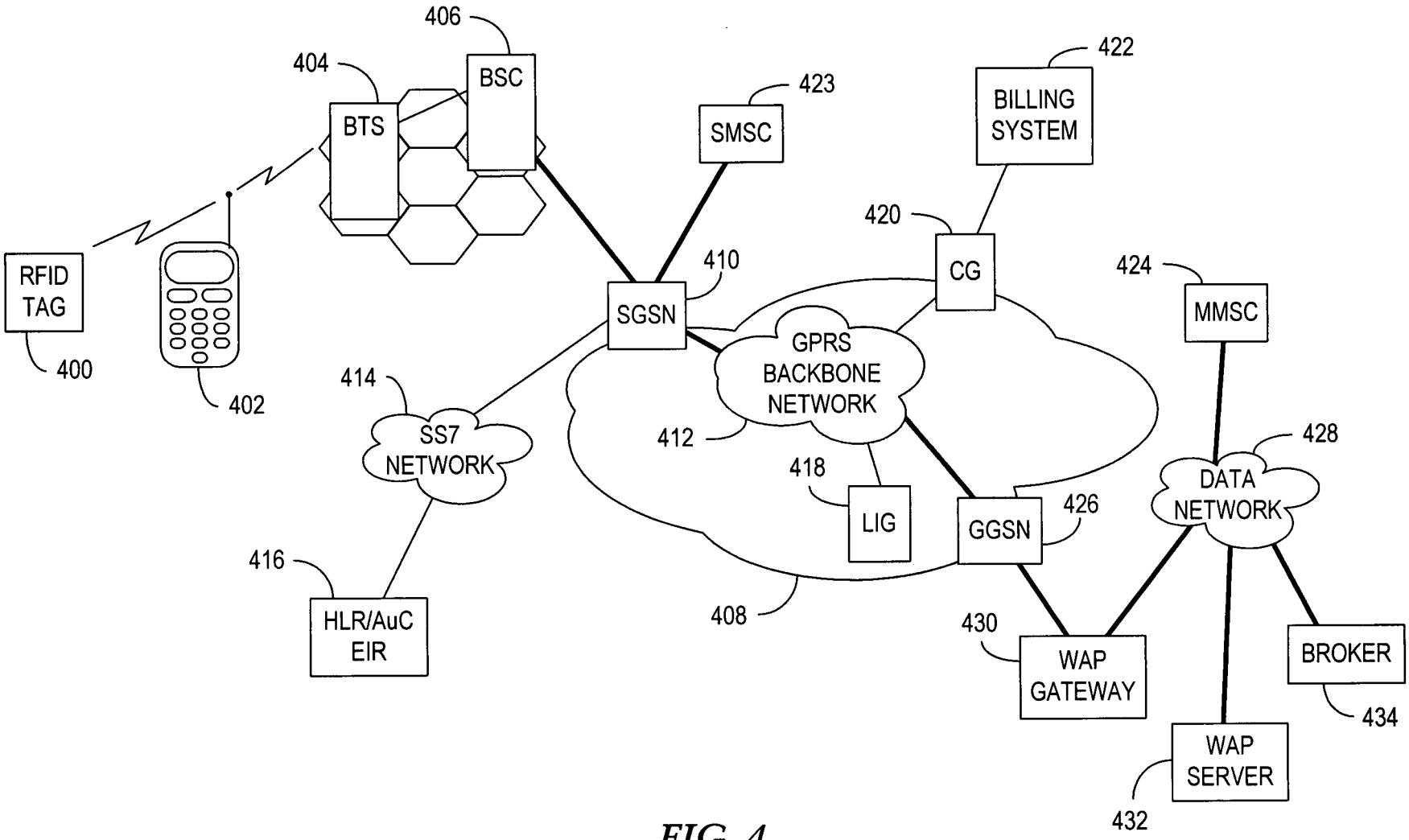
406
404
BSC
BTS
423
SMSC
422
BILLING SYSTEM
420
CG
410
SGSN
424
MMSC
RFID TAG
400
402
414
SS7 NETWORK
GPRS BACKBONE NETWORK
412
418
LIG
GGSN
426
428
DATA NETWORK
416
HLR/AuC EIR
408
430
WAP GATEWAY
BROKER
434
WAP SERVER
432

FIG. 4

	OCTET	DESCRIPTION
502	0	ID NUMBER
	1	ID NUMBER
504	2	CONTENT TYPE
	3	CONTENT TYPE
506	4	TARIFF INFORMATION
	5	TARIFF INFORMATION
508	6	LENGTH OF CONTENT
510	7 + LENGTH	CONTENT OF RFID TAG
	•	CONTENT OF RFID TAG
	•	
	•	CONTENT OF RFID TAG
512	n-2	CERTIFICATE FIELD (OPTIONAL)
514	n-1	CYCLIC REDUNDANCY CHECK SUM
	n	CYCLIC REDUNDANCY CHECK SUM

FIG. 5

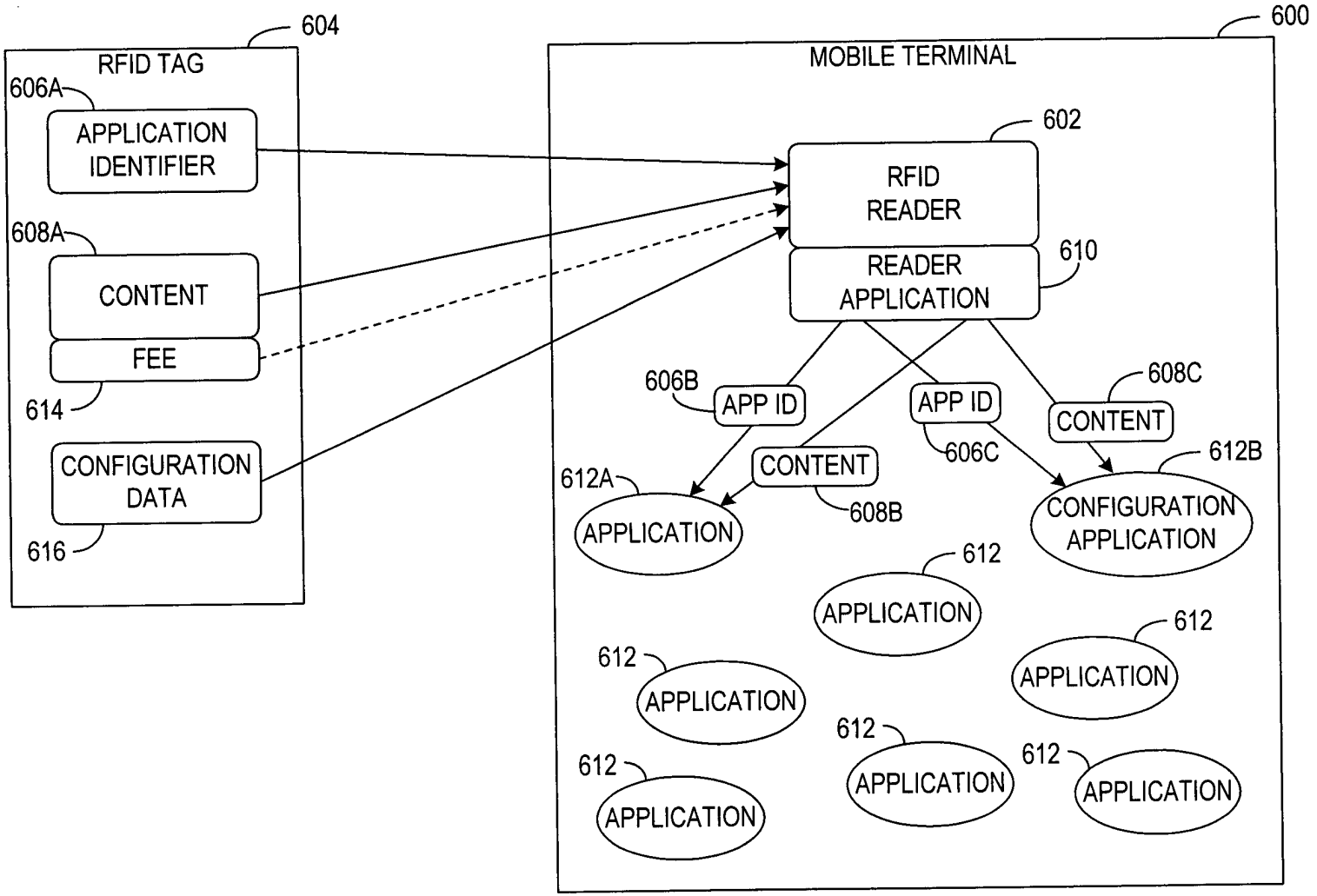
604
RFID TAG
606A
APPLICATION IDENTIFIER
608A
CONTENT
FEE
614
CONFIGURATION DATA
616
600
MOBILE TERMINAL
602
RFID READER
READER APPLICATION
610
606B
APP ID
APP ID
606C
608C
CONTENT
CONTENT
608B
612A
612B
APPLICATION
CONFIGURATION APPLICATION
612
APPLICATION
612
APPLICATION
612
APPLICATION
612
APPLICATION
612
APPLICATION

FIG. 6

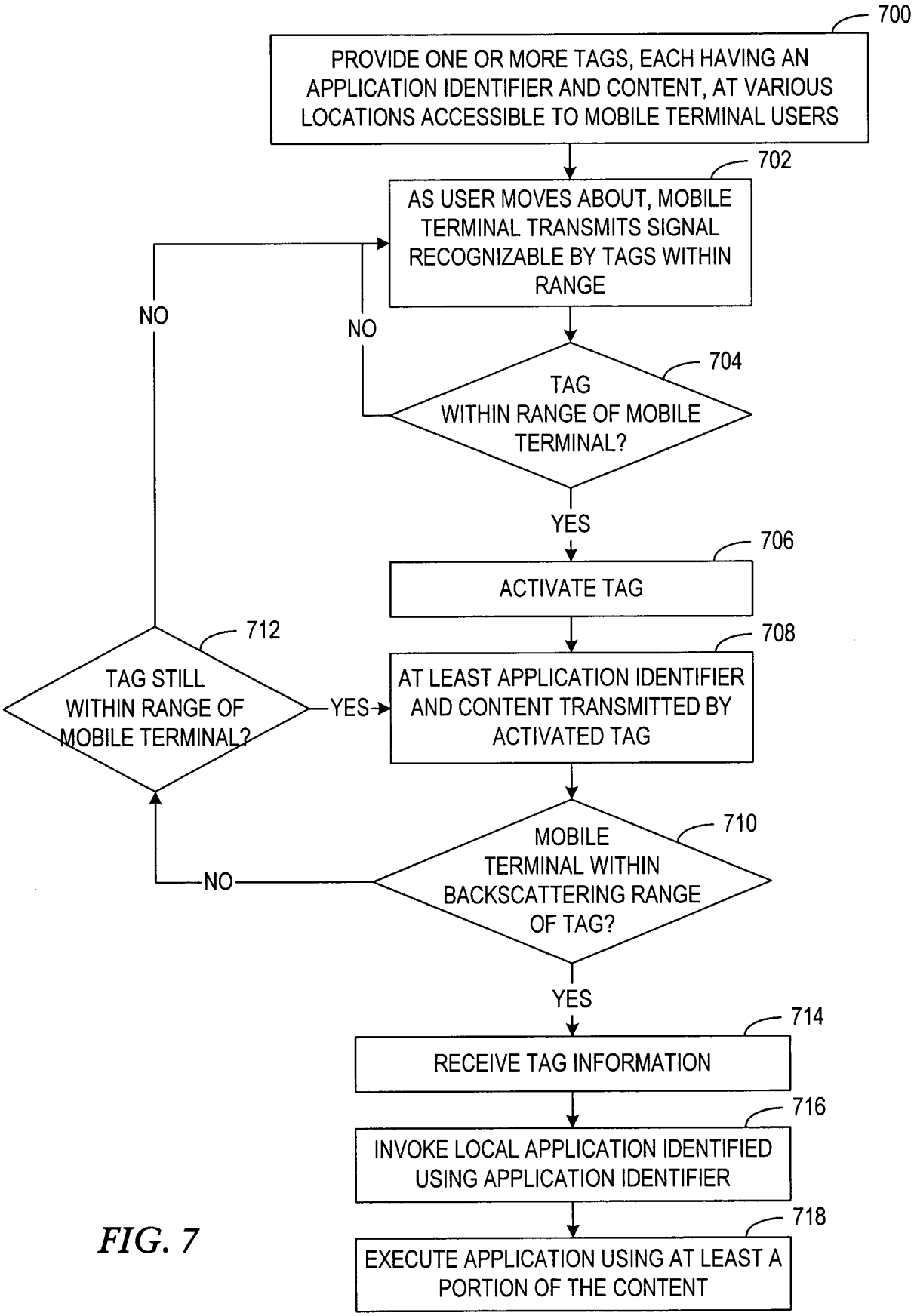
700
PROVIDE ONE OR MORE TAGS, EACH HAVING AN APPLICATION IDENTIFIER AND CONTENT, AT VARIOUS LOCATIONS ACCESSIBLE TO MOBILE TERMINAL USERS
702
AS USER MOVES ABOUT, MOBILE TERMINAL TRANSMITS SIGNAL RECOGNIZABLE BY TAGS WITHIN RANGE
NO
NO
704
TAG WITHIN RANGE OF MOBILE TERMINAL?
YES
706
ACTIVATE TAG
712
TAG STILL WITHIN RANGE OF MOBILE TERMINAL?
YES
708
AT LEAST APPLICATION IDENTIFIER AND CONTENT TRANSMITTED BY ACTIVATED TAG
710
MOBILE TERMINAL WITHIN BACKSCATTERING RANGE OF TAG?
NO
YES
714
RECEIVE TAG INFORMATION
716
INVOKE LOCAL APPLICATION IDENTIFIED USING APPLICATION IDENTIFIER
718
EXECUTE APPLICATION USING AT LEAST A PORTION OF THE CONTENT

FIG. 7

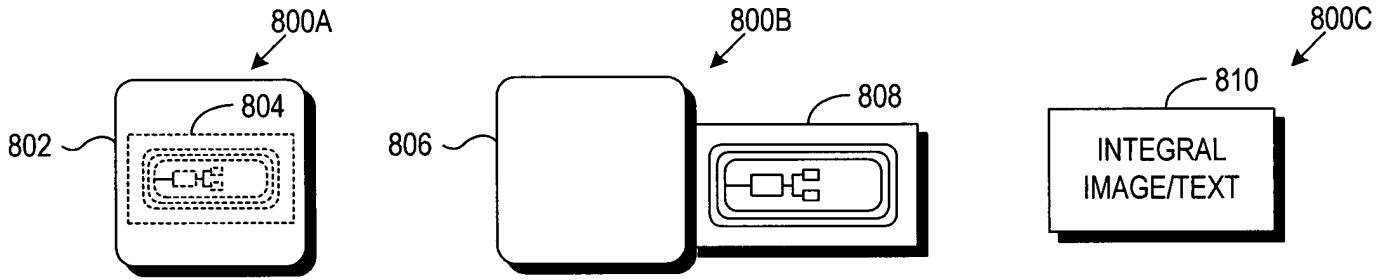
800A
802
804
800B
806
808
800C
810
INTEGRAL
IMAGE/TEXT

FIG. 8

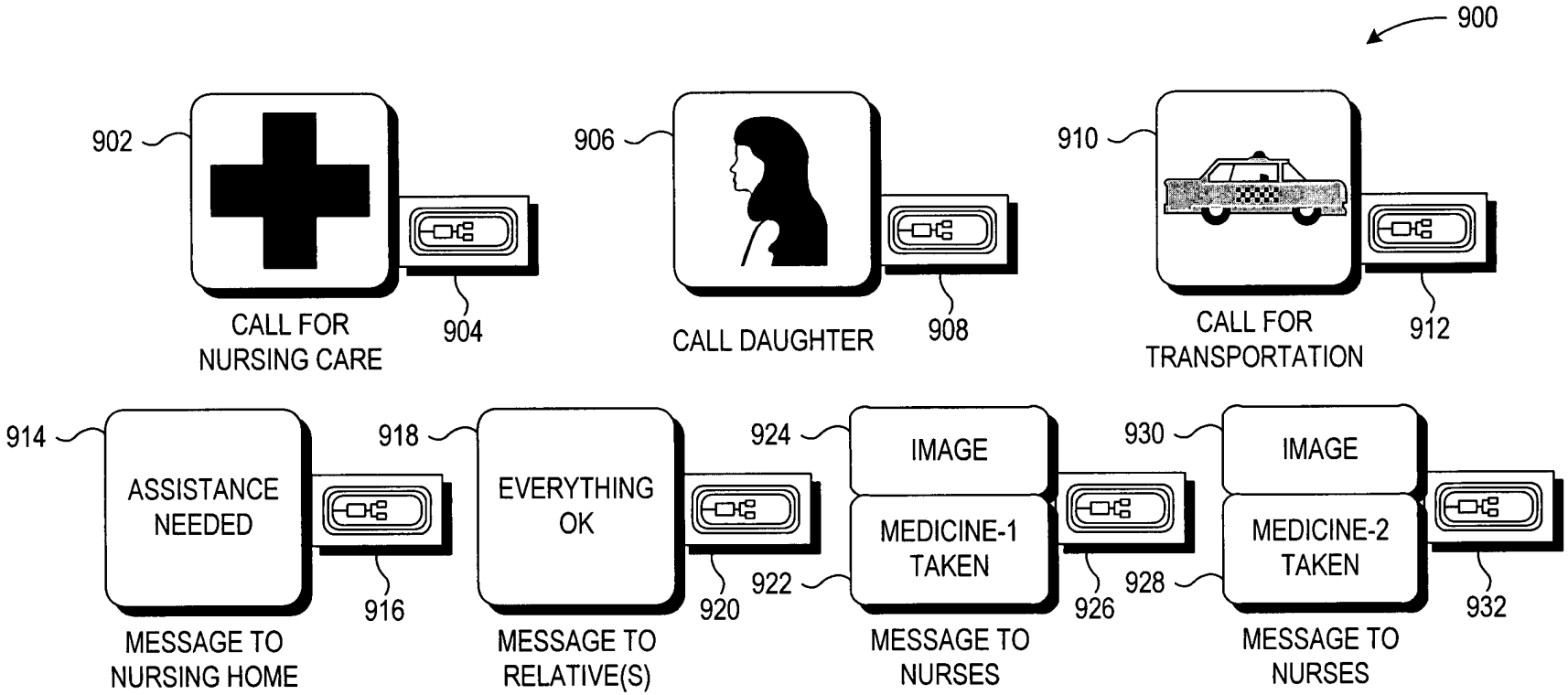
900
902
CALL FOR
NURSING CARE
904
906
CALL DAUGHTER
908
910
CALL FOR
TRANSPORTATION
912
914
ASSISTANCE
NEEDED
916
MESSAGE TO
NURSING HOME
918
EVERYTHING
OK
920
MESSAGE TO
RELATIVE(S)
924
IMAGE
MEDICINE-1
TAKEN
922
926
MESSAGE TO
NURSES
930
IMAGE
MEDICINE-2
TAKEN
928
932
MESSAGE TO
NURSES

FIG. 9

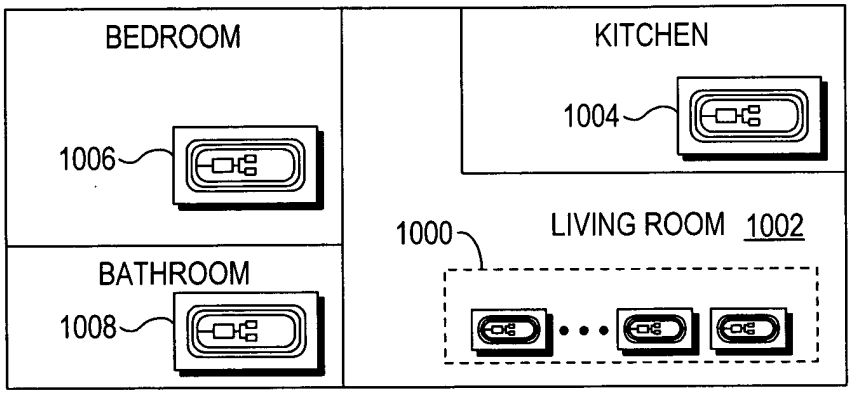

FIG. 10

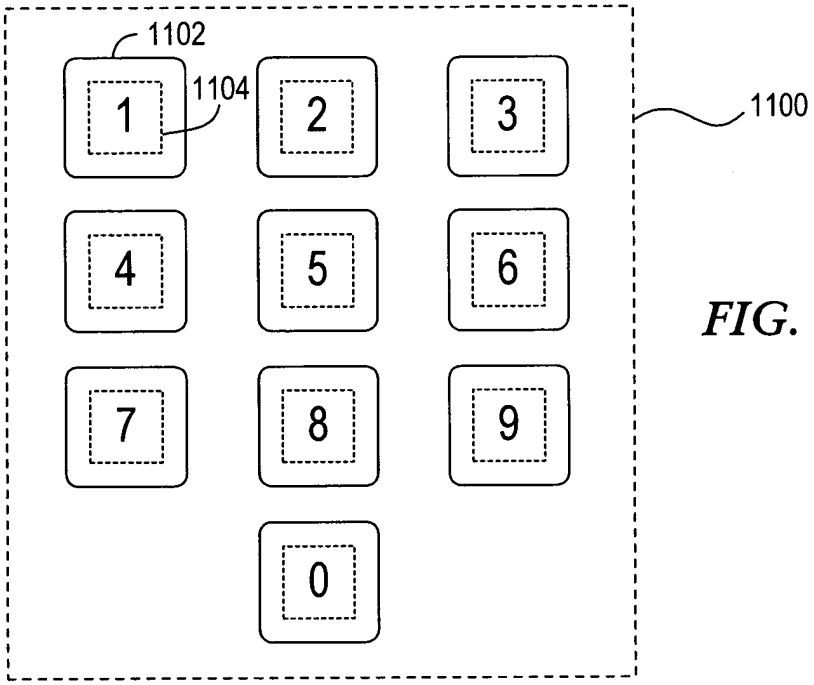

FIG. 11

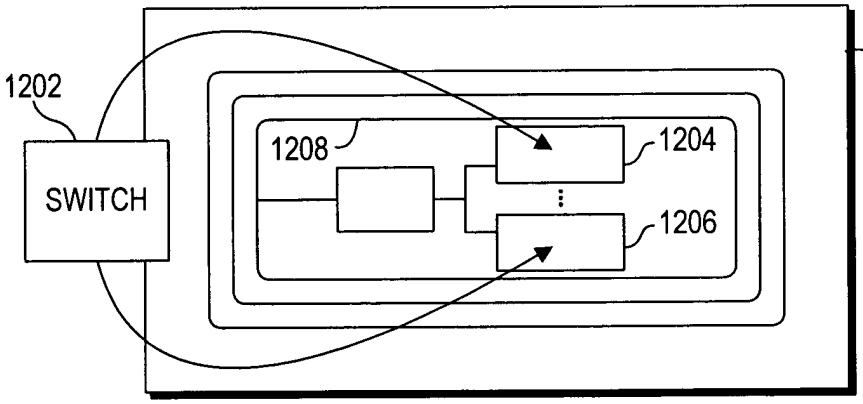

FIG. 12

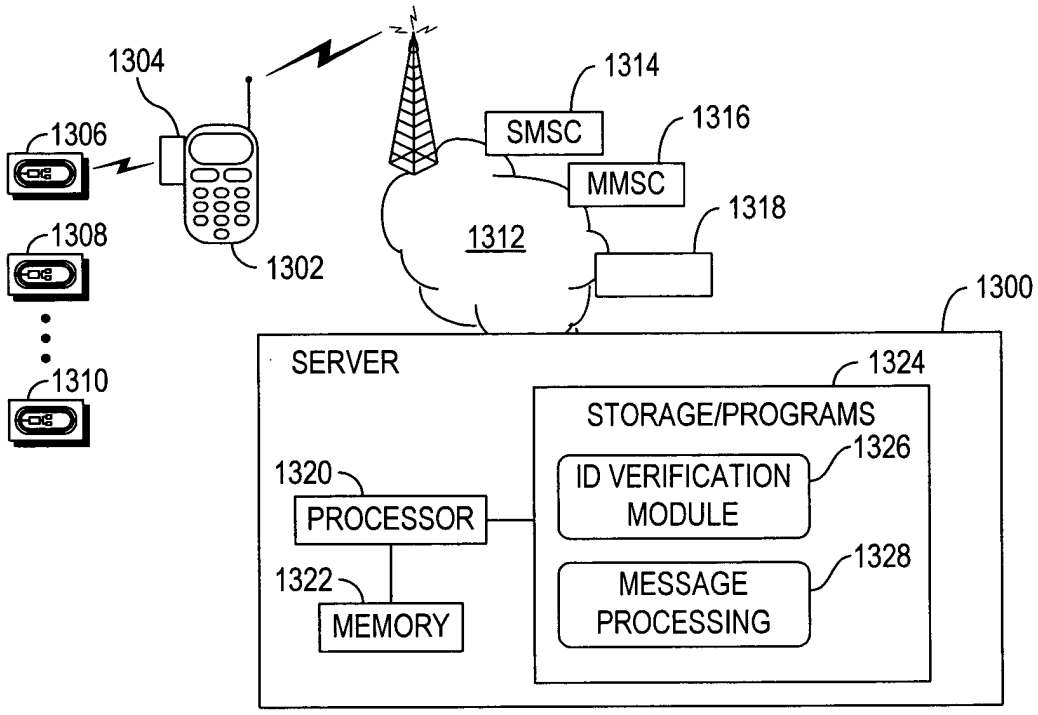
1304
1306
1308
1310
1302
1314
SMSC
1316
MMSC
1318
1312
1300
SERVER
1324
STORAGE/PROGRAMS
1326
ID VERIFICATION MODULE
1320
PROCESSOR
1328
MESSAGE PROCESSING
1322
MEMORY

FIG. 13

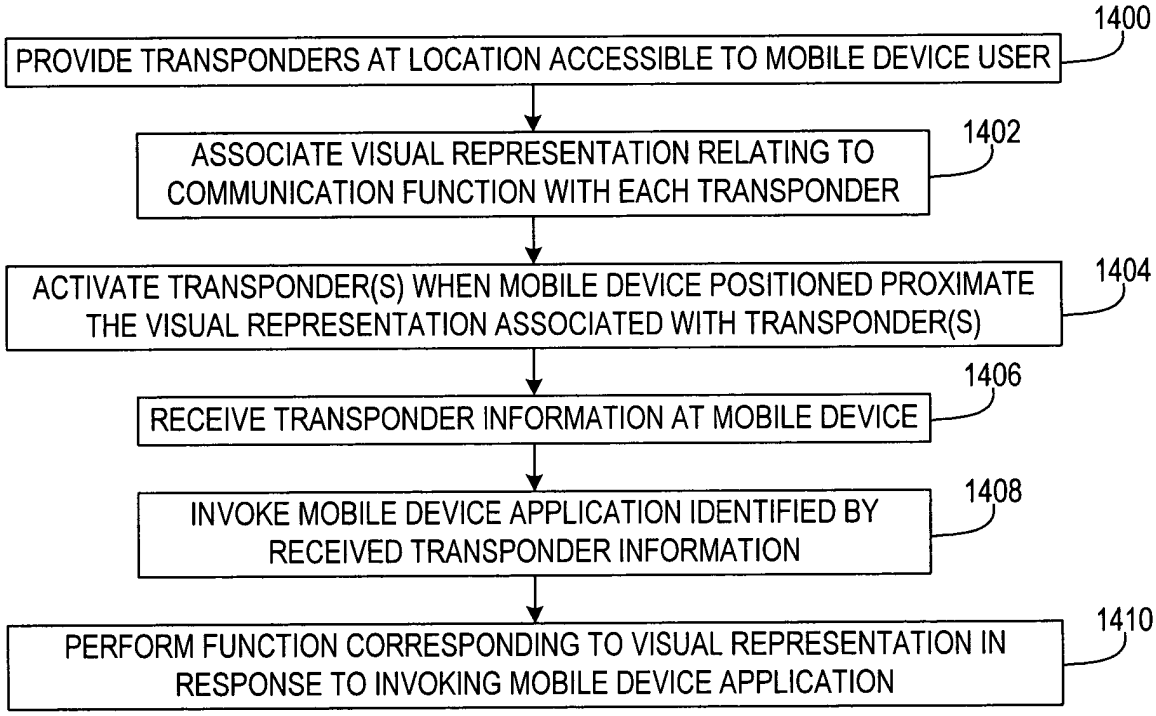
1400
PROVIDE TRANSPONDERS AT LOCATION ACCESSIBLE TO MOBILE DEVICE USER
1402
ASSOCIATE VISUAL REPRESENTATION RELATING TO COMMUNICATION FUNCTION WITH EACH TRANSPONDER
1404
ACTIVATE TRANSPONDER(S) WHEN MOBILE DEVICE POSITIONED PROXIMATE THE VISUAL REPRESENTATION ASSOCIATED WITH TRANSPONDER(S)
1406
RECEIVE TRANSPONDER INFORMATION AT MOBILE DEVICE
1408
INVOKE MOBILE DEVICE APPLICATION IDENTIFIED BY RECEIVED TRANSPONDER INFORMATION
1410
PERFORM FUNCTION CORRESPONDING TO VISUAL REPRESENTATION IN RESPONSE TO INVOKING MOBILE DEVICE APPLICATION

FIG. 14

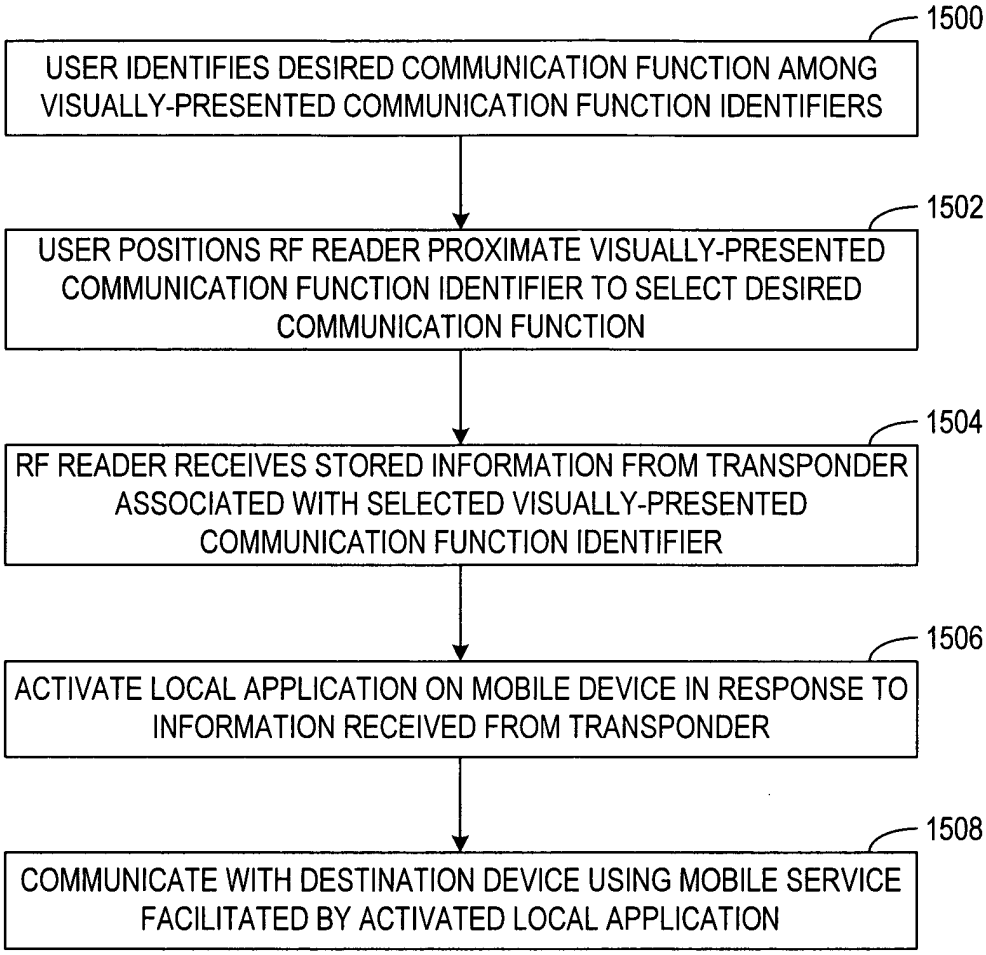
1500
USER IDENTIFIES DESIRED COMMUNICATION FUNCTION AMONG VISUALLY-PRESENTED COMMUNICATION FUNCTION IDENTIFIERS
1502
USER POSITIONS RF READER PROXIMATE VISUALLY-PRESENTED COMMUNICATION FUNCTION IDENTIFIER TO SELECT DESIRED COMMUNICATION FUNCTION
1504
RF READER RECEIVES STORED INFORMATION FROM TRANSPONDER ASSOCIATED WITH SELECTED VISUALLY-PRESENTED COMMUNICATION FUNCTION IDENTIFIER
1506
ACTIVATE LOCAL APPLICATION ON MOBILE DEVICE IN RESPONSE TO INFORMATION RECEIVED FROM TRANSPONDER
1508
COMMUNICATE WITH DESTINATION DEVICE USING MOBILE SERVICE FACILITATED BY ACTIVATED LOCAL APPLICATION

FIG. 15

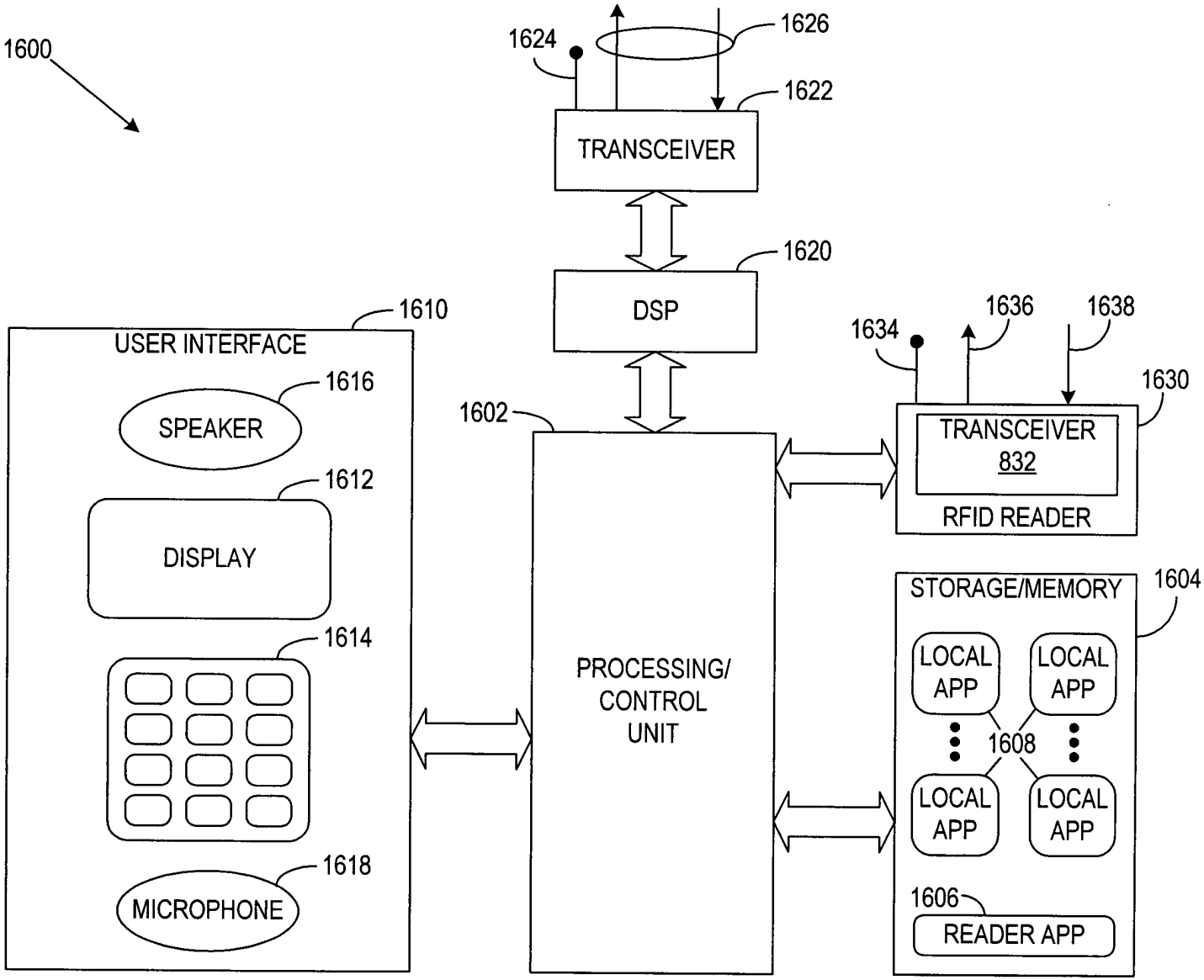
1600
1624
1626
1622
TRANSCEIVER
1620
DSP
1610
USER INTERFACE
1616
SPEAKER
1612
DISPLAY
1614
1618
MICROPHONE
1602
PROCESSING/
CONTROL
UNIT
1634
1636
1638
1630
TRANSCEIVER
832
RFID READER
STORAGE/MEMORY
1604
LOCAL
APP
LOCAL
APP
1608
LOCAL
APP
LOCAL
APP
1606
READER APP

FIG. 16